afternoon last Thursday, top NIH administrators had announced to staff, by e-mail, that the scientists the agency supports, on and off its campus in Bethesda, Maryland, could resume their experiments immediately, and that funding and peer review would begin apace.

"I am delighted to see that the NIH took swift action," says Linzhao Cheng, a stem-cell researcher at the Institute for Cell Engineering at Johns Hopkins University in Baltimore, Maryland. Cheng had suspended all hiring, purchases and planning for a large NIH grant that had scored very highly in peer review. He had originally expected to receive funding on 1 September. Still, he says, even if he receives payment this week, "we just cannot do science like this, turning the switch on and off".

Peer review is also suffering, Cheng says. Two weeks ago, he was instructed by the NIH to ignore any grants for projects using human embryonic stem cells as he prepares to participate in a study section next month. He hadn't heard of any change to those instructions by the end of last week. By now it will be difficult, he says, to give human embryonic stem-cell proposals the careful reading they deserve in advance of the meeting on 12–13 October.

Cheng also draws on Maryland state funds for his work, but that is not an option for many other researchers (see "Looking for other funders"). Meri Firpo, an assistant professor at the University of Minnesota Stem Cell Institute in Minneapolis, says that until the future of federal funding becomes more certain, she will plan for a long-term shutdown. She is currently rewriting an NIH grant, due for submission in October, to exclude human embryonic stem cells. And she is restructuring the projects of students who receive federal support to exclude the controversial human cells. "We are going forward with the same question mark as before," Firpo says.

The uncertainty extends to stem-cell researchers based on the NIH campus. Although several are hurrying to expand valued cell lines while they can, some are switching to work with induced pluripotent stem cells, which are not derived from embryos. "No one is willing to take any risks at this point and start any big experiments," says one on-campus researcher, "because it's possible that in two weeks all experiments with these cells will really be shut down for a long time."

As the legal battle continues, proponents are pressing for Congress to pass a bill that would explicitly make it legal for the NIH to fund human embryonic stem-cell research. While rejecting a request to stay his ruling, Lamberth wrote, "Congress remains perfectly free to amend or revise the statute." ■

Meredith Wadman

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AQUABOUNTY TECHNOLOGIES

Transgenic fish go large

A genetically modified animal is on the brink of making an appearance on US dinner tables for the first time. The Food and Drug Administration (FDA) is expected to approve a genetically modified (GM) Atlantic salmon that grows twice as fast as wild Atlantics, reaching market weight in a year and a half instead of three. Approval could come as soon as next week.

The fish contains a single copy of a DNA sequence that includes code for a Chinook salmon growth hormone and regulatory sequences derived from Chinook salmon and the eel-like ocean pout. Whereas Atlantic salmon normally stop growing in the winter, the GM fish produces growth hormones throughout the year. Developer AquaBounty Technologies, based in Waltham, Massachusetts, has spent more than a decade shepherding the fish towards approval in a new regulatory landscape. In 2009, the FDA decided to classify GM traits in animals as veterinary drugs. Some have criticized this decision, as it allows companies to shield some details of their product from public view as proprietary information (see *Nature* doi:10.1038/news.2008.1120; 2010).

"They are willing to incur huge risks to gain access to food."

To appease critics, the FDA has posted all the information behind its decision on the salmon online, and has opened much of the deliberations of an advisory body — the Veterinary Medicine Advisory Committee (VMAC) — to the public. Next week the VMAC will hold public sessions to hear about the science, safety, environmental impact and possible labelling of the fish. The FDA's Center for Veterinary Medicine, which will decide on approval after hearing from the VMAC, has already released a favourable report.

Some environmental groups are concerned that the fish might escape from their pens and mate with wild Atlantic salmon. "There is always going to be a possibility of escape," says Peter Bridson, aquaculture research manager at the Monterey Bay Aquarium in California. "We would oppose the approval of the current application."

AquaBounty's chief executive Ronald Stotish says those concerns are misplaced. More than 99% of his salmon are triploid, which renders them sterile, and the fish are farmed inland, in large tanks fitted with filters and baffles to imprison eggs, smolt and fish. "The possibility of an escape or an event with any possibility to interact with the wild population is infinitesimal," says Stotish.

According to Mark Abrahams, a biologist at Memorial University in St John's, Newfoundland, Canada, the transgenic fish's ramped-up metabolism is maladapted to life in the wild. "They are willing to incur huge risks to gain access to food," he says, allowing predators to pick off the fish easily.

The next GM animal on dinner plates may be the Enviropig, developed at the University of Guelph, Ontario, Canada, and submitted to the FDA for approval. The pig can better absorb phosphorus from its food, reducing the phosphorus content of its manure. High-phosphorus manure can induce algal blooms in waterways.

There are no requests for authorization of transgenic food animals pending in the European Union, and the European Food Safety Authority, based in Parma, Italy, is just beginning to draft regulatory guidelines. For now, AquaBounty plans to market its salmon only in the United States. "Other countries are interested but they are all looking to the United States for the regulatory imprimatur," says Stotish. ■

Emma Marris

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